

REMARKS

In response to the Official Action of September 9, 2004, claims 1, 4, 9, 16, 17 and 19 have been amended and claim 22 has been cancelled, and the abstract has also been amended.

Referring now to paragraph 1 of the Official Action, the objected phrase in the abstract has been amended and the abstract is therefore believed to be in compliance with the Examiner's request.

Referring now to paragraphs 2 and 3 of the Official Action, claim 16 has been amended to remove the objected phrase "the attached CCD cell" and therefore proper antecedent basis is found throughout the claim.

Similarly with regard to claim 19, the objected phrase "the extensions of the fastening element" is now positively recited.

Referring now to paragraphs 4 and 5 of the Official Action, it is respectfully submitted that claims 1, 2, 6, 7 and 15 are not anticipated by U.S. patent 4,591,901, Andreovski. The Examiner sets forth at paragraph 5 that Andreovski discloses a jointing construction for mounting CCD cells of a color line camera in an aligned fashion on a color splitting prism. The Examiner references Figure 7a for supporting his position that this reference shows a joining construction comprising fastening elements 702 which in the specification of Andreovski are support plates having a length substantially larger than the length of the CCD cell (which the Examiner references as reference 712). Reference 712 actually is a plurality of flexible side beams (see Andreovski column 7, lines 60-66). Nevertheless, there is a CCD cell mounted in Andreovski. However, Andreovski does not teach or suggest claim 1 as amended since Andreovski does not disclose or suggest a first glue joint extending along the rear surface of the CCD cell and being of a thermally conductive glue nor third glue joints between the fastening element and the margins of the housing wherein the third glue joints are of a thermally insulating glue or cast plastic. These features of claim 1 are now presented in amended claim 1. The features of amended claim 1 are supported by the application as filed. The input window and rear surface of the CCD cell are disclosed in the specification at page 6, lines

14-16 and in Figures 2-3. The use of thermally conductive glue for the first glue joint is set forth in originally filed claim 4. The first glue joint between the rear surface of the CCD cell and the fastener element is disclosed in the specification at page 6, lines 14-21 and Figures 2-3 and the use of thermally insulating glue for the third glue joint is disclosed in originally filed claim 9.

In particular, Andrevski teaches that the CCD imagers 34, 38 and 40 (see Figure 2 of Andrevski) are glued at the light receiving side thereof because that side of the imagers support against the support bars 210 (see column 4, lines 8-27 of Andrevski) and the imagers are epoxied to the central portions of these bars (see column 4, lines 44-48 of Andrevski). Andrevski does not disclose or suggest that any part could be in contact with and glued to the rear side of the CCD imagers. It is therefore clear that Andrevski which teaches gluing at the light receiving side of the CCD imagers clearly teaches away from the present invention as claimed and therefore it is respectfully submitted that claim 1 is neither disclosed nor suggested by Andrevski. Since claim 1 is believed to be distinguished over Andrevski, it is respectfully submitted that the dependent claims thereto, including claims 2, 6, 7 and 15, are also distinguished over Andrevski.

Referring now to paragraph 6 of the Official Action, it is respectfully submitted that claims 4, 9, 11 and 29 are also not made obvious by Andrevski under 35 U.S.C. §103(a). Claims 4, 9, 11, and 29 each depend from amended claim 1 and for reasons presented above with regard to claim 1 are therefore distinguished over Andrevski.

Referring now to paragraph 8 of the Official Action, it is respectfully submitted that claims 16, 19, 25 and 26 are not obvious in view of U.S. patent 5, 315,384, Heffington et al in view of Andrevski. (Claim 22 has been cancelled due to the amendment of claim 16 as discussed more fully below.)

Claim 16 as amended is directed to a method for mounting CCD cells of a color line camera on a color splitting prism, which is in advance attached to a housing. As amended, independent claim 16 further recites that the CCD cells have a light receiving input window and an opposite rear surface onto said prism and that the step of creating a thermally conductive surface contact is between the rear surface of the CCD cell and a fastening element that is essentially larger than the CCD cell by joining them together with a first glue provided therebetween. Amended claim 16 further specifies the step of allowing the first glue to harden fixing the CCD cell to the fastening

element. It further recites that in the aligning of the fastening element with the CCD cell, the CCD cell is fixed thereto at the correct position on the prism exit surface by moving the fastening element with respect to said housing.

Support for the input window in the rear surface of the CCD cell is disclosed in the original disclosure at page 6, lines 14-16 and also shown in Figures 2-3, and the first glue joint being between the rear surface of the CCD cell and the fastener element is disclosed in the original specification at page 6, lines 14-21 and in Figures 2-3. With respect to allowing the hardening of the glue for the first glue joint, this is disclosed in originally filed claim 22 and is also set forth in the specification at page 6, lines 14-26. The step of moving the fastening element with respect to the housing is disclosed in the specification at page 7, lines 25-28.

Heffington et al discloses that the sensitive surfaces 58a, 58b and 58c of the sensors 68a, 68b, and 68c are first glued on the surface 102 of the spacers 98a, 98b and 98c with ultraviolet light-sensitive adhesive (see Heffington et al at column 7, lines 3-25 and Figures 2, 5a and 5b). Heffington et al does not disclose or suggest any part thereof that could be in contact with and glued to the rear surface of the CCD imagers. Thus, Heffington et al does not disclose or suggest gluing the CCD from the rear side thereof as set forth in amended claim 16 and Heffington et al, in fact, teaches away from this method of gluing the CCD cell to a fastening element.

Heffington et al discloses that spacers 98a, 98b and 98c have the same size as the sensors 68a, 68b and 68c (see Figures 2, 5a, 5b and 8). Heffington et al does not disclose that any part of the fastening element could be larger than the sensors and using such fastening elements for gluing the sensors to the prism housing. The fastening elements of amended claim 16 are not disclosed or suggested by Heffington et al.

Heffington et al also discloses that the bonded articles 120 which are the combinations of the sensors, the spacers 98a, 98b and 98c and the band pass filter 97 (filters attach with ultraviolet light-sensitive adhesive) are glued directly onto the exit surfaces 92, 96 and 78 of the prism with ultraviolet light-sensitive adhesive (see columns 7, lines 25-27 and column 9, lines 4-13). In this case, the area of glue is exactly the same as the sensor area. Heffington et al does not disclose any supporting part or spacer or the like that could be in contact with and glued to the housing of the prism. Heffington et al does show that gluing of the fastening elements to the housing is clearly

against the gluing on the prisms themselves. Heffington et al does not disclose any gluing with substantially different areas. Thus, the gluing of the fastening elements according to the present invention is neither disclosed nor suggested by Heffington et al. Furthermore, Heffington et al only discloses an ultraviolet light-sensitive adhesive. Heffington et al does not disclose or suggest anything concerning a thermal conductive glue as recited in amended claim 16.

Andrevski does not make up for these deficiencies in Heffington et al since neither Andrevski nor Heffington et al teach gluing the rear side of the sensor to a support structure.

The solutions of Andrevski and Heffington et al actually exclude each other in that the sensor can be glued either to the prism or to the housing. If glued to the prism, all adhesive contact areas must be equal with respect to the sensor area and if glued to the housing from the sensitive side of the sensor, all adhesive contact areas must be smaller than the sensor area. Therefore, the combinations as defined and claimed in the present invention cannot be obtained by combining Andrevski and Heffington et al. In fact, the solutions of Andrevski and Heffington et al have all of the drawbacks as disclosed in the description of the application with respect to prior art references JP-4-290090, WO-96/13930, US 4,323,918 and JP-63-90985. For all of the foregoing reasons, it is respectfully submitted that amended claim 16 is neither disclosed nor suggested by Heffington et al further in view of Andrevski. Since amended claim 16 is believed to be distinguished over Heffington et al in view of Andrevski, it is respectfully submitted that claims 19, 25 and 26 which all ultimately depend from independent claim 16 are also distinguished over these references.

It is noted at paragraph 9 of the Official Action that claims 3, 5, 8, 10, 12-14, 17, 18, 20, 21, 23, 24, 27, 28, 30 and 31 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form. Claims 3, 5, 8, 10, 12-14 are believed to be allowable in view of amended claim 1. Similarly, claims 18, 20, 23, 24, 27 and 28 are believed to be allowable in view of their dependency from amended claim 16 which is believed to be distinguished over the art.

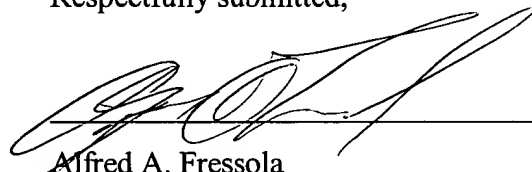
Claim 17 has been amended to be presented in independent form including the limitations of claim 16 as originally filed. In view of the amendment of claim 17, claims 21, 30 and 31 are believed to be allowed in view of their dependency from claim 17.

Referring now to paragraph 10 of the Official Action, it is respectfully submitted that prior art made of record but not relied upon taken alone or in combination with the previously cited art does not disclose or suggest amended independent claims 1 and 16 and the dependent claims thereto. More particularly, none of these references disclose or suggest a joining construction for mounting CCD cells of a color line camera in an aligned fashion on a color splitting prism, which is attached to a prism housing wherein each of the CCD cells has a light receiving window and an opposite rear surface wherein the joining construction has fastening elements having a length substantially larger than the length of the CCD cell and extending from a housing margin on one side of the light exit surface to another housing margin on the opposite side of the light exit surface and further having a first glue joint between the CCD cell and its fastening element such that the first glue joint extends along the rear surface of the CCD cell and is of a thermally conductive glue and that there is a third glue joint between the fastening element and the margins of the housing.

It is therefore respectfully submitted that the claims of the present application are in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

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Alfred A. Fressola
Attorney for Applicant
Reg. No. 27,550

WARE, FRESSOLA, VAN DER SLUYS
& ADOLPHSON LLP
Bradford Green, Building Five
755 Main Street, P.O. Box 224
Monroe, CT 06468
Telephone: (203) 261-1234
Facsimile: (203) 261-5676
USPTO Customer No. 004955